

CLAIMS

1. A drive unit with reducer comprising:

a circular rigid gear, having outer teeth formed on an
5 outer peripheral surface;

an annular flexible gear, positioned at the outside of
the rigid gear, having an inner peripheral length that is
greater than the outer peripheral length of the rigid gear, and
having inner teeth, which are engageable with the outer teeth
10 of the rigid gear, formed on an inner peripheral surface; and

a wave generator, deflecting the flexible gear in radial
directions to make the inner teeth of the flexible gear engage
with the outer teeth of the rigid gear and moving the engagement
positions, at which the flexible gear is deflected, in a
15 circumferential direction, wherein

the wave generator is a rotor of a motor.

2. A drive unit with reducer comprising:

a circular rigid gear, having outer teeth formed on an
20 outer peripheral surface;

an annular flexible gear, positioned at the outer side
of the rigid gear, having an inner peripheral length that is
greater than the outer peripheral length of the rigid gear, and
having inner teeth, which are engageable with the outer teeth
25 of the rigid gear, formed on an inner peripheral surface; and

a wave generator, deflecting the flexible gear in radial

directions to make the inner teeth of the flexible engage with the outer teeth of the rigid gear and moving the engagement positions, at which the flexible gear is deflected, in a circumferential direction, wherein

- 5 the wave generator is a rotating member, which is positioned at the outside of the flexible gear in a manner enabling rotation with respect to the flexible gear and is equipped with pressing portions that press and thereby deflect the flexible gear in radial directions, and wherein
- 10 the rotating member is a rotor of a motor.

3. A drive unit with reducer according to claim 1 or claim 2, wherein

15 a stator of the motor which rotates the rotor is disposed at outer peripheral side of the rotor, and

 the rigid gear is joined to a first member, and is rotatably supported by a second member at both ends of the rigid gear.

20 4. A drive unit with reducer according to claim 1 or claim 2, wherein

 a total of two flexible gears having a cylindrical part with the same diameter are provided, and

25 flexible gears are disposed so that one end of each of flexible gears is face to face each other, and are respectively engageable to the rigid gear, and

each of flexible gears is supported at the other end thereof.

5. A drive unit with reducer according to claim 1 or claim
5 2, wherein

the rotor comprises:

an inner peripheral surface formed to an elliptical shape; and

10 a plurality of magnets disposed on the inner peripheral surface, wherein

a plurality of magnets are disposed symmetrically with respect to a major axis or minor axis of the elliptical shape.

6. A drive unit with reducer according to claim 1 or claim
15 2, wherein

a deformation controller which controls the deformation of the rotor is disposed at outer periphery of the rotor.

7. A drive unit with reducer according to claim 1 or claim
20 2, wherein

the rotor is adapted to cause a magnetic flux along a rotation axis of the motor, and

a stator is disposed facing regions wherein a magnetic flux is caused of the rotor, and wherein

25 the stator is adapted to cause the magnetic flux along the rotation axis.